INN AT PRIEST LAKE (PWSNO 1090198)
SOURCE WATER ASSESSMENT REPORT

December 16, 2002

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR INN AT PRIEST LAKE

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like the Inn at Priest Lake, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for the Inn at Priest Lake* describes factors used to assess susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheets for Inn at Priest Lake are attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. The water system for the Inn at Priest Lake serves a 24 unit motel, RV park and strip mall near Coolin, Idaho. Two 6-inch cased wells located in the northwest corner of the property supply drinking water. Well #1 was drilled in September 1992 to a depth of 79 feet. The steel casing extends from 15 inches above ground to a depth of 69 feet. The bottom 10 feet of the well are screened. The bentonite clay surface seal is 18 feet deep. To meet current Idaho Department of Water Resources standards for drinking water wells in unconsolidated formations, the seal must extend into a clay bed if one is present above the water table as it is at this site. The static water level is 60 feet below ground.

Well #2 was drilled at an unknown date and modified in April 1993 when the casing was driven to a depth of 86 feet and a new screen was installed. The static water level in Well #2 is 63 feet below the surface. Additional construction details are not available since the original driller's log is not on file.

Well Site Characteristics. Hydrologic sensitivity scores for a well are derived from the soil drainage classification inside the recharge zone boundaries and from information on the well log. Soils in the recharge zones delineated for the Inn at Priest Lake wells are generally poorly drained to moderately well drained. Soils in these drainage classifications provide some protection against migration of contaminants toward the wells. The log for Well #1 shows a mixture of gravel with sand and clay predominating in the soil column above the water table. Specific information about the soil composition at well #2 is not available.

Potential Contaminant Inventory. Land use inside the recharge zones delineated for the Inn at Priest Lake is suburban and commercial. Roads crossing the delineation boundaries are mostly unpaved and carry light volume local traffic. The DEQ underground storage tank database shows a gas station on the opposite side of Cavanaugh Bay Road from the Inn. The public water system file for the Inn at Priest Lake documents a drainfield about 300 to 450 feet south east of the wells. The Coolin Sewer District serves the area.

Water Quality History. The Inn at Priest Lake has had no water quality problems. Quarterly tests for total coliform bacteria have all been negative. Annual nitrate tests show concentrations ranging from undetectable levels to 0.369 mg/l. The Maximum Contaminant Level for Nitrate is 10 mg/l. The water is not treated prior to distribution.

Susceptibility to Contamination. An analysis of the Inn at Priest Lake wells, incorporating information from the public water system file and the potential contaminant inventory, ranked both wells moderately susceptible to all classes of regulated contaminants. The ground water susceptibility worksheets for your wells are on pages 6 and 7. Formulas used to compute final scores and rankings are at the bottom of the second worksheet. Risk factors related to the relative shallowness of the wells and local geology added the most points to the final susceptibility scores.

Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The Inn at Priest Lake has a good water quality history. Continuing to maintain and operate the system in compliance with *Idaho Rules for Public Drinking Water Systems* is the best drinking water protection for the Inn. Backflow prevention is particularly important for facilities available at the strip mall like the laundromat and carwash since low pressure caused by a power outage can siphon contaminants into the distribution system.

It might be helpful to investigate some of the ground water stewardship sites on the Internet. Home*A*Syst for example helps well owners assess everyday activities for their potential impact on drinking water quality. Topics include petroleum product storage, handling and storing lawn and household chemicals and similar activities.

A voluntary measure every system should employ is development of an emergency response plan. There is a simple, fill-in-the-blanks form available on the DEQ website (www.deq.state.id.us/water/water1.htm) to guide systems through the emergency planning process.

Because The Inn at Priest River does not have direct jurisdiction over the entire recharge zone for its wells, it will be important to form partnerships with neighboring landowners and businesses to regulate land uses that can degrade ground water quality. The goal of source water protection is to maintain current water quality for the future despite the changes we can expect with population growth in North Idaho.

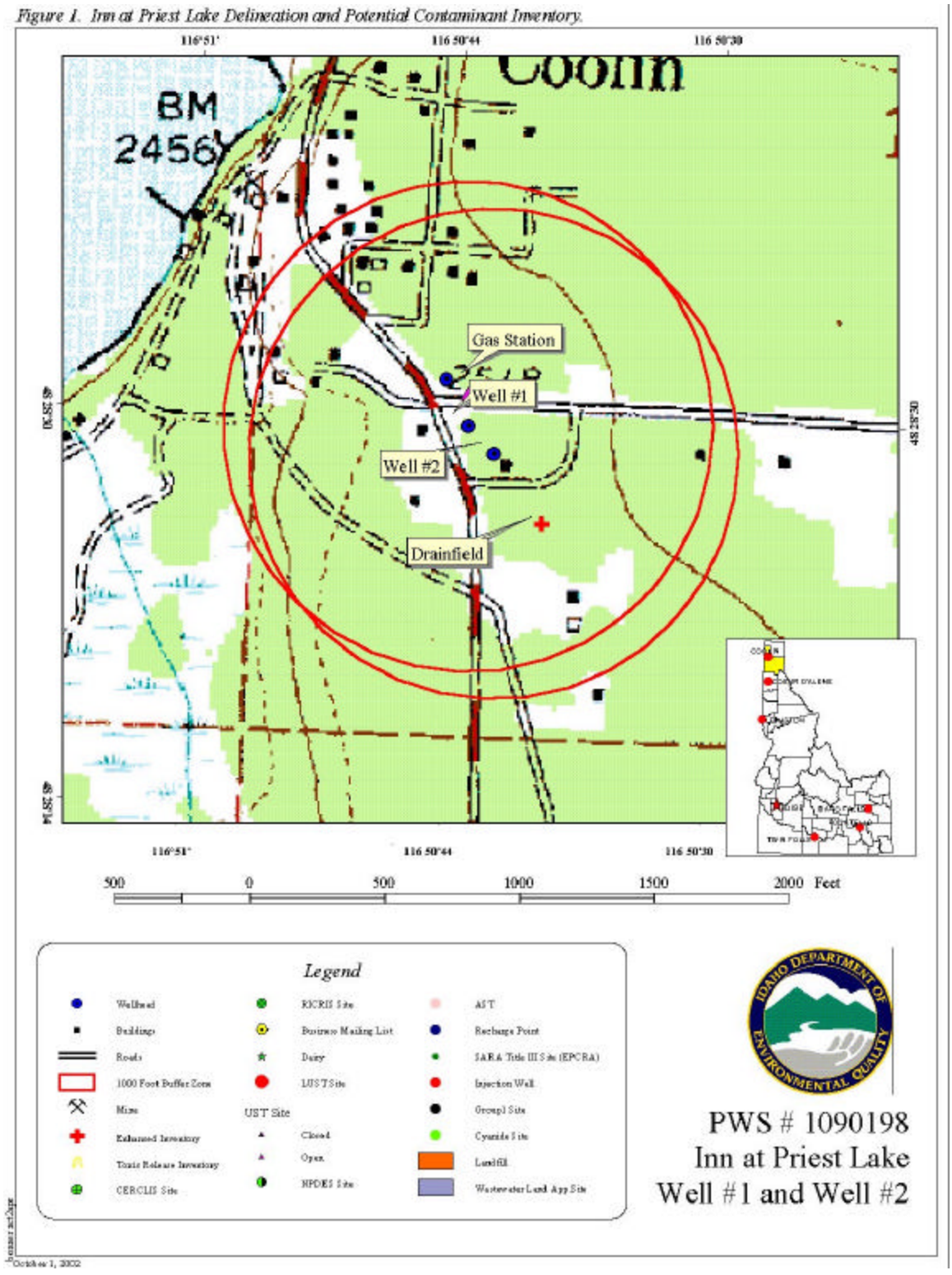
Assistance. Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: www.deq.state.id.us/water/water1.htm

Figure 1. Inn at Priest Lake Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **INN AT PRIEST LAKE** Well : **WELL 1**

Public Water System Number : **1090198** 10/1/02 9:43:00 AM

1. System Construction		SCORE			
Drill Date	9/3/92				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	CASING YES, SEAL NO	1			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**3**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	GRAVEL	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**4**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use		Score	Score	Score	Score
Land Use	SUBURBAN, COMMERCIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO	NO	NO	NO	NO
Potential Contaminant Source/Land Use Score		**2**	**2**	**2**	**2**
Potential Contaminant / Land Use - 1000-FOOT / ZONE					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius Zone contains or intercepts a Group 1 Area	NO	0	0	0	0
Agricultural Land Use	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius Zone		**3**	**3**	**3**	**2**
Cumulative Potential Contaminant / Land Use Score		**5**	**5**	**5**	**4**
4. Final Susceptibility Source Score		**8**	**8**	**8**	**9**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility

Public Water System Name : **INN AT PRIEST LAKE** Well : **WELL 2**

Public Water System Number : **1090198** 10/1/02 9:43:11 AM

1. System Construction		SCORE			
Drill Date	UNKNOWN				
Driller Log Available	MODIFICATION LOG				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	UNKNOWN	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**4**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**4**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use		Score	Score	Score	Score
Land Use	SUBURBAN/COMMERCIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in SANITARY SETBACK	NO	NO	NO	NO	NO
Potential Contaminant Source/Land Use Score		**2**	**2**	**2**	**2**
Potential Contaminant / Land Use - 1000-FOOT RADIUS ZONE					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius Zone contains or intercepts a Group 1 Area	NO	0	0	0	0
Agricultural Land Use	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius Zone		**3**	**3**	**3**	**2**
Cumulative Potential Contaminant / Land Use Score		**5**	**5**	**5**	**4**
4. Final Susceptibility Source Score		**9**	**9**	**9**	**10**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.